User Manual

iNUKE
NU6000DSP/NU3000DSP/NU1000DSP

Ultra-Lightweight, High-Density 6000/3000/1000-Watt Power Amplifier with DSP Control and USB Interface

behringer.com

Table of Contents

Thank you

Thank you for choosing a BEHRINGER iNUKE DSP power amplifier. This piece of high-end gear was developed for professional use in live applications, and this amplifier incorporates many ground-breaking features that will make it a useful, dependable, and flexible part of your sound system.

The iNUKE DSP amps feature an onboard Digital Signal Processor for precise, customized control. Multiple routing options, from dual mono to bridged operation, to special functions dedicated to bi-amping applications, give this amplifier unprecedented flexibility. Even better, all of these functions can be controlled remotely from a PC via the downloadable BEHRINGER Amp Remote control software.

This manual first describes the panel controls and connection points before delving into the DSP functionality. Special sections describe how you can program the DSP by using either the amp's front panel controls, or by using the Amp Remote software.

Read this manual and have fun as you become an iNUKE DSP Power User!

EN Important Safety Instructions

CAUTION
RISK OF ELECTRIC SHOCK!
DO NOT OPEN!
ATTENTION
RISQUE D'ÉLECTROCUTION !
NE PAS OUVRIR !

Terminals marked with this symbol carry electrical current of sufficient magnitude to constitute risk of electric shock. Use only high-quality professional speaker cables with ¼" TS or twist-locking plugs pre-installed. All other installation or modification should be performed only by qualified personnel.

This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure - voltage that may be sufficient to constitute a risk of shock.

This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

Caution
To reduce the risk of electric shock, do not remove the top cover (or the rear section). No user serviceable parts inside. Refer servicing to qualified personnel.

Caution
To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Caution
These service instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operation instructions. Repairs have to be performed by qualified service personnel.

1.   Read these instructions.

2.   Keep these instructions.

3.   Heed all warnings.

4.   Follow all instructions.

5.   Do not use this apparatus near water.

6.   Clean only with dry cloth.

7.   Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8.   Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9.   Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10.   Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11.   Use only attachments/accessories specified by the manufacturer.

12.   Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13.   Unplug this apparatus during lightning storms or when unused for long periods of time.

14.   Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

15.   The apparatus shall be connected to a MAINS socket outlet with a protective earthing connection.

16.   Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

LEGAL DISCLAIMER

LIMITED WARRANTY

Front panel control elements

1. Introduction

1.1 Before you get started

1.1.1 Shipment

Your iNUKE amplifier was carefully packed at the factory, and the packaging is designed to protect the unit from rough handling. Nevertheless, we recommend that you carefully examine the packaging and its contents for any signs of physical damage that may have occurred during transit.

- If the unit is damaged, please do NOT return it to BEHRINGER, but notify your dealer and the shipping company immediately. Otherwise, claims for damage or replacement may not be granted.

1.1.2 Initial operation

Please make sure the unit is provided with sufficient ventilation, and never place your iNUKE amp on top of other heat-emanating equipment or in the vicinity of a heater to avoid the risk of overheating.

The mains connection is made via the enclosed power cord and a standard IEC receptacle. It meets all international safety certification requirements.

- Please make sure that all units have a proper ground connection. For your own safety, never remove or disable the ground conductor from the unit or the AC power cord.

- The sound quality may diminish within the range of powerful broadcasting stations and high-frequency sources. Increase the distance between the transmitter and the device and use shielded cables for all connections.

1.1.3 Online registration

Please register your new BEHRINGER equipment right after your purchase by visiting http://behringer.com and read the terms and conditions of our warranty carefully.

Should your BEHRINGER product malfunction, it is our intention to have it repaired as quickly as possible. To arrange for warranty service, please contact the BEHRINGER retailer from whom the equipment was purchased. Should your BEHRINGER dealer not be located in your vicinity, you may directly contact one of our subsidiaries. Corresponding contact information is included in the original equipment packaging (Global Contact Information/European Contact Information). Should your country not be listed, please contact the distributor nearest you. A list of distributors can be found in the support area of our website (http://behringer.com).

Registering your purchase and equipment with us helps us process your repair claims more quickly and efficiently.

2. Control Elements

2.1 Front panel

(1) **USB** connection enables firmware updates and control over parameters via computer. Please visit Behringer.com to download DSP control software for your computer. The USB port is for amplifier configuration only.

(2) **SIGNAL and LIMIT LEDs** display the signal level for each channel. Reduce the input gain if the red LIMIT LED lights up continuously.

(3) **CH A/CH B CONTROLS** adjust the input level. To increase signal gain, rotate the knobs clockwise; to reduce the gain, rotate the knobs counter-clockwise.

(4) **PROCESS** button steps through the DSP processing modules.

(5) **SETUP** button steps through parameters within DSP processing modules.

(6) **LCD SCREEN** displays the current DSP module and parameter settings.

(7) **UP/DOWN/EXIT** buttons step through DSP modules and parameters or exit to the top-level iNUKE screen (center button).

(8) **SELECT** encoder knob toggles between Graphic and Edit modes (when pressed) and changes parameter values (when rotated).

(9) **POWER** button turns the amplifier on and off.
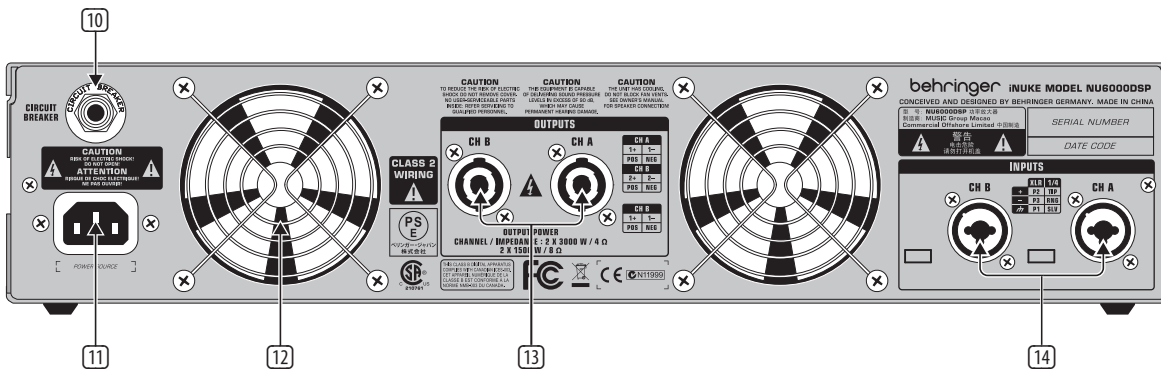
Rear panel control elements (NU6000DSP shown)

2.2 Rear panel

⑩ **BREAKER** (automated fuse, NU6000DSP only). After eliminating the cause of faulty operation, simply depress the BREAKER and power up the unit again. The BREAKER acts in place of common discardable fuses.

⑪ **POWER SOURCE** jack accepts the included IEC power cable.

⑫ **VENTILATION FAN** speed adjusts automatically to ensure trouble-free operation.

⑬ **TWIST- LOCKING SPEAKER OUTPUTS** connect the amplifier to the speakers using professional speaker cables with twist-locking plugs.

⑭ **INPUTS** route line-level input signals into these combination jacks using XLR, balanced ¼" TRS, or unbalanced ¼" TS connectors.

3. DSP Processor

3.1 Processor Functionality

The iNUKE DSP processor manipulates your signal in the digital domain, offering tremendous flexibility and control. You may control and program the DSP processor via either the iNUKE amplifier's front panel or remotely by computer using the BEHRINGER Amp Remote software (available for download from behringer.com).

By using the DSP processor, you can program all amplifier functions and parameters—except for the CH A and CH B input gain settings, which can only be controlled using the CH A / CH B knobs on the amplifier's front panel.

3.2 Front Panel control

The following material describes the DSP's screen organization and how to program the processor's various functions by manipulating your iNUKE amplifier's front panel controls.

3.2.1 Main top-level screen

The top-level screen displays "iNUKE," as well as the model name: NU1000DSP, NU3000DSP, or NU6000DSP.

3.2.2 SETUP screens

The SETUP screens access the preset, panel lock, device naming, and LCD screen contrast functions. To access these functions, press the SETUP button, and then move up and down through the top-level screens by pressing either the SETUP button or the UP / DOWN arrow buttons.

SETUP 1/4: Load Preset

The top-level Load Preset screen displays the current Preset name (up to 10 characters) and Preset number (1–20). Subsidiary screens offer options for loading, saving, and naming Presets.
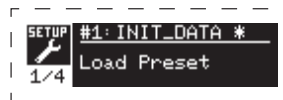
Below the Preset name, this screen displays the "Load Preset" option by default. Rotate the SELECT encoder clockwise to access the "Save Preset" option.
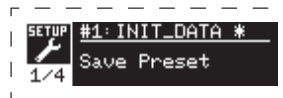
Note: Preset #1:INIT_DATA cannot be overwritten. Select this preset any time you want to restore the amp's default settings.

Loading a Preset

1. Make sure the "Load Preset" option appears on the screen. (Rotate the SELECT encoder to toggle between "Load Preset" and "Save Preset.")
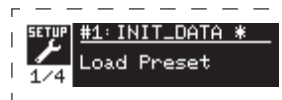
2. Press the SELECT encoder knob to access the DSP's internal Preset list on the next sub-screen. The correct sub-screen will display the LOAD PRESET option in the upper right-hand corner of the screen.

3. Scroll up and down through the Preset list by rotating the SELECT encoder knob. As you scroll, the Preset number will appear to the left below the disk icon.

4. To load the selected Preset, you may either press the SELECT encoder or press the UP arrow button.

Saving a preset

1. Make sure the "Save Preset" option appears on the screen. (Rotate the SELECT encoder to toggle between "Load Preset" and "Save Preset.")

2. Press the SELECT encoder knob to access the DSP's internal Preset list on the next sub-screen. The correct sub-screen will display the EDIT TITLE and SAVE PRESET options on the right-hand side of the screen.

3. Scroll through the list until you find an EMPTY Preset slot or another Preset you wish to overwrite.

4. If you wish to edit your Preset title before saving, press the UP arrow button to choose the EDIT TITLE option.

5. Edit the Preset title (see "Editing the Preset" title below).

6. Select the SAVE PRESET option by pressing the DOWN arrow key.
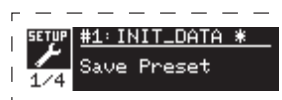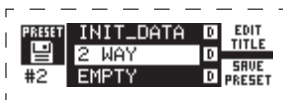
Editing a Preset title

1. Make sure the "Save Preset" option appears on the screen. (Rotate the SELECT encoder to toggle between "Load Preset" and "Save Preset.")

2. Press the SELECT encoder knob to access the DSP's internal Preset list on the next sub-screen. The correct sub-screen will display the EDIT TITLE and SAVE PRESET options on the right-hand side of the screen.

3. Scroll through the Preset list by rotating the SELECT encoder knob.

4. Select a Preset slot as a save destination by pressing the SELECT encoder knob.

5. Press the UP arrow button to select the EDIT TITLE function. The EDIT TITLE window will appear, with alphanumeric characters in a row at the top and the current title directly below with the editing cursor.
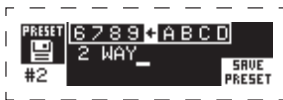
6. Select the backward arrow from the row of characters by rotating the SELECT knob until the backward arrow is highlighted.

7. Press the SELECT encoder knob to erase characters. The cursor will erase characters from right to left across the existing title.

8. Rotate the SELECT encoder to select new characters from the row above the current Preset title.

9. Insert selected characters into the Preset title by pressing the SELECT encoder knob. Once you select and insert a character, the editing cursor will change direction and advance from left to right.

10. Save the new Preset title by pressing the DOWN arrow key to activate the SAVE PRESET function.

SETUP 2/4: Panel Lock

The Panel Lock function uses a 4-character alphanumeric access code to lock the front panel controls and prevent unauthorized changes to DSP settings. Current settings can still be viewed while the unit is locked, but the parameters cannot be changed.

The amplifier can only be locked or unlocked from the Panel Lock screen.

Locking the amplifier

1. Go to the Panel Lock screen by pressing the SETUP button.

2. Press the SELECT encoder knob to access the password screen.

3. Set an access code by using the SELECT encoder knob. Rotate the knob to scroll through the character list, and then select characters by pressing. With each press on the SELECT encoder knob, the password cursor will advance left to right by one space.

4. The amplifier will automatically lock when you select the final character for the access code. The display will flash a brief confirmation message: "Device Locked!"

5. The status displayed on the Panel Lock screen will state "LOCKED!"

Unlocking the amplifier

1. Go to the Panel Lock screen by pressing the SETUP button.

2. Press the SELECT encoder knob to access the password screen.

3. Enter the access code by using the SELECT encoder knob. Rotate the knob to scroll through the character list, and then select characters by pressing. With each press on the SELECT encoder knob, the password cursor will advance left to right by one space.

4. The amplifier will automatically unlock when you select the final character for the access code. The display will flash a brief confirmation message: "Unlocked."

5. The status displayed on the Panel Lock screen will state "OFF."

SETUP 3/4: Device Name

Each iNUKE DSP amplifier can be individually named for easy identification within a rack or remotely via the BEHRINGER Amp Remote control software (go to Behringer.com to download the software).

Naming the amplifier

1. Access the Device Name screen by pressing the SETUP button.
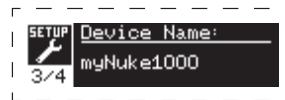
2. Press the SELECT encoder knob to access the editing screen.

3. Choose the backwards arrow by turning the SELECT knob and press it to delete the existing characters of the current preset name.

4. Rotate the SELECT encoder to select new characters from the row above the current amplifier name.

5. Insert selected characters into the new amplifier name by pressing the SELECT encoder knob. Once you select and insert a character, the editing cursor will change direction and advance from left to right.

6. Save the new amplifier name by pressing the DOWN arrow key to activate the SAVE TITLE function.

SETUP 4/4: Contrast

The Contrast screen allows you to adjust the LCD screen's contrast level. The Contrast parameter ranges from 1–30, with 30 representing maximum contrast. Rotate the SELECT encoder knob to adjust the Contrast setting.
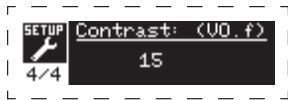

3.2.3 PROCESS screens

Pressing the PROCESS button opens up the various screens that determine the signal path setup and that control processing parameters for the DSP modules: I/O, PEQ, XOVER, DEQ, DELAY, and LIMIT.

You can move between top-level module screens by pressing the PROCESS button.

I/O

The I/O module sets up the signal routing inside the DSP from input to output. Press and rotate the SELECT encoder knob to choose between dual mono, stereo, bi-amped, or bridged routing options.

DUAL
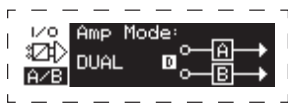
DUAL (dual mono) mode routes each channel input, A and B, through completely separate parallel signal paths with independent outputs for each channel. Each channel may be processed with its own unique filter, equalization, signal delay, and limiter settings.

STEREO

STEREO mode routes the signal from both the A and B inputs through a single series of DSP modules. The parallel DSP modules process the A and B signals with identical, linked settings (only module "A" parameter settings appear on subsequent DSP module screens).

BIAMP1

BIAMP1 mode splits the Channel A input signal at a programmable frequency point, and then routes the resulting high and low frequency signals through a parallel chain of DSP modules with independent equalization, signal delay, and limiter settings. In BIAMP1 mode, Output A routes low frequencies to a low-range speaker, while Output B connects to a high-frequency transducer.

BIAMP2

BIAMP2 mode operates identically to BIAMP1 mode, except that the output signals are swapped between Outputs A and B (i.e., Output B handles low frequencies while Output A handles high frequencies). The swapped A and B output routing allows the user to quickly correct reversed high/low speaker connections without having to physically access the amplifier's back panel and manually change the speaker connection.
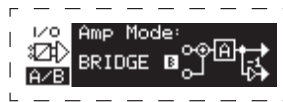
BRIDGE

BRIDGE mode combines the signals from Inputs A and B into a blended mono signal and then routes the resulting mono signal through a single chain of DSP modules, leading to a combined mono output. The mono output signal is identical at Outputs A and B, and the amplifier responds to a single combined speaker load.

PEQ

The PEQ module deploys up to eight EQ bands for precise sound sculpting. The EQ bands can each be switched between low shelving, high shelving, and parametric modes. For the high shelving and low shelving EQ bands, the LS12 and HS12 settings provide steeper equalization curves than the LS6 and HS6 settings.

The main PEQ screen displays the composite equalization curve across the frequency spectrum.


Programming equalizers

1. Choose individual equalizers by rotating the SELECT encoder knob. As you rotate the SELECT encoder knob, dotted vertical lines will appear at different points within the frequency spectrum, and the EQ band name will appear in the lower-left corner of the screen (e.g., A#1, A#2, B#1, B#2, and so on).

2. Press the SELECT encoder knob to enter the parameter screens for your chosen EQ band.

3. Press the UP / DOWN arrow keys to switch between parameters. The chosen parameter will appear highlighted.

4. Rotate the SELECT encoder knob to change parameter values.

5. Choose the equalizer type (Type): OFF, PEQ (parametric), low shelving (LS6, LS12), or high shelving (HS6, HS12).

6. Set the frequency (Freq) for each EQ band by rotating the SELECT encoder knob. The programmed frequency can represent either the center frequency for parametric mode, or the cutoff frequency for low and high shelving modes.
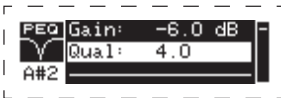
7. Set the EQ band's cut or boost (Gain) by rotating the SELECT encoder knob.

8. For parametric mode, control the width of the parametric curve by tweaking the Qual parameter. High Qual values produce a narrow, steep curve, while low Qual values create a wide curve with a gentle slope.

9. Press the SELECT encoder knob or the EXIT button to return to the top-level PEQ screen.

XOVER

The XOVER module offers programmable pairs of high- and low-pass filters. STEREO and BRIDGE modes possess only one filter set (A#1). DUAL, BIAMP1, and BIAMP2 modes use two filter sets (A#1 and B#1), and in BIAMP1 and BIAMP2 modes, these two sets of filters may be linked.

On the top-level screen, vertical dotted lines indicate the threshold point for each filter.

Each low-pass and high-pass filter also offers multiple options for filter type and slope: OFF, Butterworth (BUT6, BUT12, BUT18, BUT24, BUT48), Bessel (BES12, BES24), or Linkwitz-Riley (LR12, LR24, LR48).

Programming filters/bi-amping crossover

1. Choose between filter sets A#1 and B#1 by rotating the SELECT encoder knob (DUAL, BIAMP1, and BIAMP2 modes only).

2. Press the SELECT encoder knob to enter the parameter screens.

3. Move up or down between parameters by pressing the UP / DOWN arrow buttons.

4. Choose between filter types for high-pass (HPtype) and low-pass (LPtype) by rotating the SELECT encoder knob.
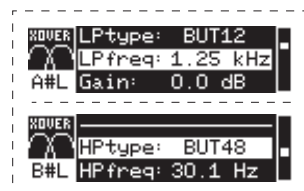
5. Set the filter thresholds for high-pass (HPfreq) and low-pass (LPfreq) by rotating the SELECT encoder knob.

6. Set the filter's overall signal gain (Gain) by rotating the SELECT encoder knob.

7. Set the link parameter (LinkAB) to ON or OFF by rotating the SELECT encoder knob (BIAMP1 and BIAMP2 modes only).

8. Press the SELECT encoder when finished to return to the top-level XOVER screen.

DEQ

The DEQ module deploys a dynamic EQ that is triggered by a programmable signal threshold. For example, you can program the dynamic EQ to cut or boost increasing amounts of mid frequencies as the signal gets louder beyond your preferred threshold.

STEREO and BRIDGE modes feature one set of dynamic EQs (A#1 and A#2), while DUAL, BIAMP1, and BIAMP2 modes feature two sets of dynamic EQs (A#1, A#2, B#1, and B#2). Each dynamic EQ may be set to OFF, band-pass (BP), low-pass (LP6, LP12), and high-pass (HP6, HP12).

Programming dynamic EQs

1. Choose between dynamic EQ sets by rotating the SELECT encoder knob.

2. Press the SELECT encoder knob to enter the parameter screens.

3. Move up or down between parameters by pressing the UP / DOWN arrow buttons.

4. Choose between EQ types (Type) by rotating the SELECT encoder knob.

5. Set the frequency (Freq) for each EQ by rotating the SELECT encoder knob. The programmed frequency can represent either the center frequency for band-pass mode, or the threshold frequency for low- and high-pass modes.

6. For band-pass mode, control the width of the band-pass curve by tweaking the Qual parameter. High Qual values produce a narrow, steep curve, while low Qual values create a wide curve with a gentle slope.
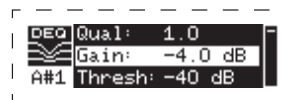
7. Set the dynamic equalizer's cut or boost (Gain) by rotating the SELECT encoder knob.

8. Set the signal threshold (Thresh) by rotating the SELECT encoder knob.

9. Program your desired ratio (Ratio). Similar to a compressor, higher ratio values yield a more intense equalization effect.

10. Adjust attack (Atime) and release (Rtime) to your preferred values.
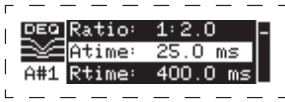
11. Press the SELECT encoder when finished to return to the top-level DEQ screen.

DELAY

The DELAY DSP module digitally slows the final signal output from the amplifier by a programmable amount (expressed as either distance or time). This signal delay helps prevent phase and synchronization problems caused by sound traveling through air over long distances, e.g., between speaker arrays separated by long distances or between a performance stage and distant sound reinforcement speakers.

Programming signal delay

1. Choose between signal paths (A#1, B#1) by rotating the SELECT encoder knob.

2. Press the SELECT encoder knob to enter the parameter screens.

3. Move up or down between parameters by pressing the UP / DOWN arrow buttons.

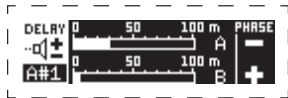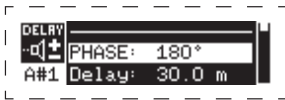4. Choose between 0° and 180° phase (PHASE) by rotating the SELECT encoder knob.

5. Choose your amount of signal delay (Delay) by rotating the SELECT encoder button.

6. Fine tune the Delay value using the (fine) parameter.

7. Change the delay's unit of measure (Unit), if necessary, by rotating the SELECT encoder knob. The delay value can be expressed in milliseconds (ms), meters (m), or feet (ft).

8. Press the SELECT encoder when finished to return to the top-level DELAY screen.

LIMIT

The LIMIT DSP module controls the unit's output limiter, with programmable parameters for threshold (Thresh), release (Rtime), and hold (Hold).

The top-level LIMIT screen always displays the threshold (Thresh) setting for quick reference.

Programming the output limiter

1. Choose between signal paths (A#1, B#1) by rotating the SELECT encoder knob.

2. Press the SELECT encoder knob to enter the parameter screens.

3. Move up or down between parameters by pressing the UP / DOWN arrow buttons.

4. Choose a threshold (Thres) setting by rotating the SELECT encoder knob.

5. Choose a release time (Rtime) by rotating the SELECT encoder knob.

6. Choose a hold (Hold) setting by rotating the SELECT encoder knob.

7. Press the SELECT encoder when finished to return to the top-level LIMIT screen.

3.3 BEHRINGER Amp Remote Software
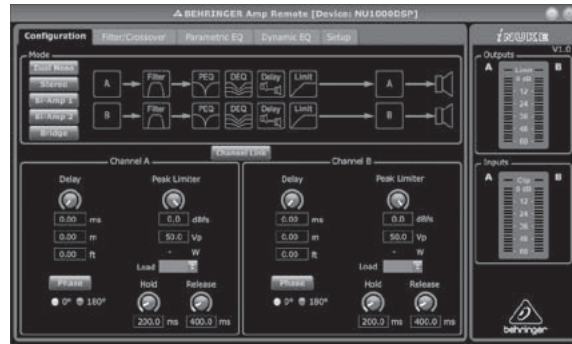
The BEHRINGER Amp Remote software allows the user to control all iNUKE DSP settings remotely from a computer via the USB connection located on the iNUKE front panel.

3.3.1 METERS

Meters

Monitor input and output levels by using the virtual meters on the right hand side of the control software screen. Adjust input levels using the knobs on the amplifier's front panel.
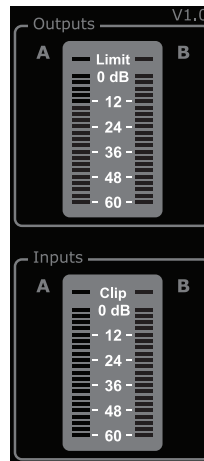
The Amp Remote software displays two level meters, one for the input signal, and another meter for the final output signal.

Input Meters
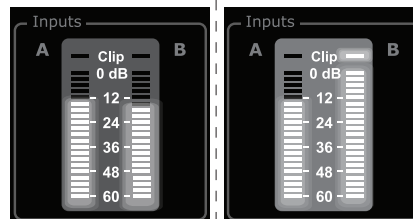
The input meters show the signal level at the CH A and CH B inputs. If the input signal exceeds the 0 dB level, the red Clip indicator will light over the channel experiencing an overload.

The input level can only be controlled by using the CH A and CH B knobs on the front panel of the iNUKE amplifier. The Amp Remote software does not control the input level.

Output Meters
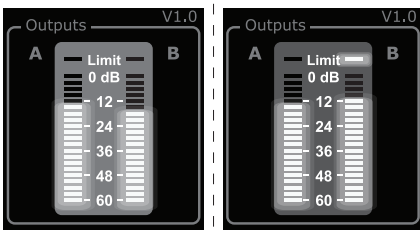
The output meters show the signal level at the end of the DSP signal chain, following the Limit module. If the signal activates the limiter, the red Limit indicator will light over the channel experiencing an overload.

3.3.2 Function Tabs

The BEHRINGER Amp Remote window allows the user to access DSP functions via embedded tabs accessible near the top of the software window.

The software window includes these tabbed screens:

- **Configuration**—controls the amplifier Mode setting for Dual Mono, Stereo, and other routing options, as well setting controls for output delay and limiting.

- **Filter/Crossover**—offers control over adjustable hi-pass and lo-pass filters. In Bi-Amp 1 and Bi-Amp 2 configuration, this tab controls the crossover point for splitting the blended, mono input signal into separate high- and low-frequency mono signals for bi-amping.

- **Parametric EQ**—controls up to 8 adjustable parametric and shelving EQs for each channel.

- **Dynamic EQ**—adjusts parameters for 2 bands of level-dependent, dynamic equalization per channel.

- **Setup**—manages presets and networking options.

3.3.3 Connection Status

The software displays the connection status in the top header of the main software window.
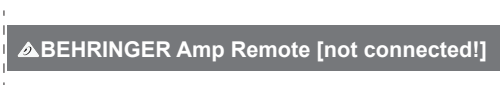
When the amp/software connection is active, the window heading displays the name of the amplifier.
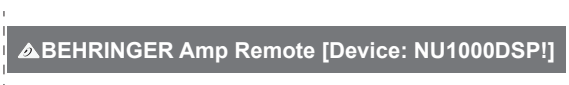
3.3.4 Configuration
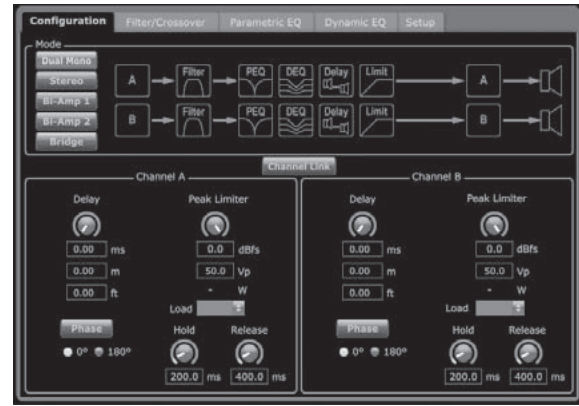
The Configuration tab displays two main sets of software controls:

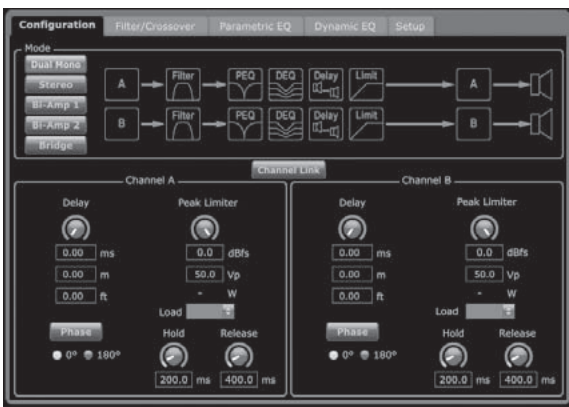- **Mode**—controls the amplifier configuration. Choose between Dual Mono, Stereo, Bi-Amp 1, Bi-Amp 2, and Bridge configurations. Each configuration's complete signal path appears in the display window, including the arrangement of internal DSP modules and speaker outputs.

- **Delay/Peak Limiter**—controls settings for the Delay and Limit DSP modules, as well as options for channel phase, Load settings (in Ohms) for the limiter wattage display, Hold and Release for the Limiter, and channel linking. The number of Delay/Peak Limiter controls change depending on the amplifier Mode configuration.

Mode

Changing amplifier mode

The amplifier mode can be changed by clicking on the button for your desired routing option along the left-hand side of the window. When you click on a mode button, the software will launch a confirmation window. Click "Yes" in the confirmation window to launch the new amplifier mode, and the new signal path will appear in the display.

Mode descriptions

Dual Mono

Dual Mono mode routes each channel input, A and B, through completely separate parallel signal paths with independent outputs for each channel. Each channel may be processed with its own unique filter, equalization, delay, and limiter settings. The Delay and Limit modules for A and B can be linked and programmed with identical settings by clicking on the Channel Link button below the Mode window.

Stereo

Stereo mode routes the signal from both the A and B inputs through a single series of DSP modules. Each DSP module processes both the A and B signals with identical, linked settings. The linked Delay and Limit parameters can be controlled from Stereo mode's consolidated Channel A+B control window (which displays automatically when Stereo mode is selected).

Bi-Amp 1

Bi-Amp 1 mode splits the Channel A input signal in the XOver DSP module at a programmable frequency point, and then routes the resulting high and low frequency signals through a parallel chain of DSP modules with independent equalization, delay, and limiter settings. The Delay and Limit modules for the split high and low frequency signals can be linked and programmed with identical settings by clicking on the Channel Link button below the Mode window. In Bi-Amp 1 mode, Output A routes low frequencies to a low-range speaker, while Output B connects to a high-frequency transducer.

Bi-Amp 2

Bi-Amp 2 mode operates identically to Bi-Amp 1 mode, except that the signals are swapped between Outputs A and B (i.e., Output B handles low frequencies while Output A handles high frequencies). The swapped A and B output routing allows the user to quickly correct reversed high/low speaker connections without having to physically access the amplifier's back panel and manually change the speaker connection.

Bridge

Bridge mode combines the signals from Inputs A and B into a blended mono signal and then routes the resulting mono signal through a single chain of DSP modules, leading to a combined mono output. The mono output signal is identical at Outputs A and B, and the amplifier responds to a single combined speaker load.

Delay/Peak Limiter

Channel Link

In Dual Mono, Bi-Amp 1, and Bi-Amp 2 modes, the Channel Link virtual button will appear just above the Delay and Peak Limiter controls. When you click on the Channel Link virtual button, the button will light up, and the Delay and Peak Limiter controls for both channels will display identical values.

Delay

The Delay function digitally slows the final signal output from the amplifier by a programmable amount (expressed as either distance or time). This signal delay helps prevent phase and synchronization problems caused by sound traveling through air over long distances, e.g., between speaker arrays separated by long distances or between a performance stage and distant sound reinforcement speakers.

The Delay controls also simultaneously display the amount of signal delay in milliseconds (ms), meters (m), and feet (ft), which can be useful if you already know the precise distance between speakers.

Programming signal delay

1. Program the signal delay by using either of these two methods:

a) Rotate the Delay virtual knob clockwise until you achieve a suitable amount of signal delay. The ms, m, and ft text boxes will each display equivalent values as you rotate the virtual knob.

b) Type a delay value directly into one of the text boxes below the Delay virtual knob (ms, m, or ft, depending on your preference). The Delay virtual knob will rotate to a position matching the delay value you have entered.

2. Choose between 0° and 180° phase either by clicking on the Phase virtual button or by clicking directly on 0° or 180° directly below the virtual button. When the Phase virtual button is engaged, the virtual button will light yellow and the indicator next to 180° will light up.

Peak Limiter

The Peak Limiter helps protect your speakers by preventing signal spikes at the amplifier's output stage.

The Peak Limiter controls include a dedicated virtual knob with matching numerical displays in dBfs (decibels relative to full scale), Vp (Voltage(peak)), as well as a rating in Watts, which appears only when you choose an Ohm setting from the Load pulldown menu.

The BEHRINGER Amp Remote software also allows you to see the amplifier's total output as a rating in Watts. This Watt rating allows you to connect speakers with lower power ratings and then adjust the limiter to match the speakers' maximum Watt rating.

Note: the Amp Remote software does not automatically detect or show the total speaker load connected to the amplifier.

Controls for Hold and Release times appear near the bottom of the window, each with a matching numerical display.

Programming the output limiter

1. Program the output limiter by using either of these two methods:

a) Rotate the Peak Limiter virtual knob counter-clockwise until you find an adequate limiter setting for your sound system. The dBfs (decibels relative to full scale) and Vp (Voltage [peak]) text boxes will each display equivalent values as you rotate the virtual knob.

b) Type a limiter value directly into one of the text boxes below the Peak Limiter virtual knob (dBfs or Vp). The Peak Limiter virtual knob will rotate to a position matching the delay value you have entered.

2. Choose a Load value from the Load pulldown menu (none, 2, 4, 8, or 16 Ohms) that matches the total combined load of all speakers connected to the amplifier's outputs. If your combined speaker load in Ohms does not exactly match 2, 4, 8, or 16 Ohms, choose the next lower Ohm setting from the Load pulldown menu (i.e., if your total combined speaker load equals 4.25 Ohms, select the 4 Ohm setting). When you select a Load setting, an additional Watt rating for the limiter will appear above the Load pulldown menu.

3. Choose a Hold value either by rotating the Hold virtual knob or by entering a value (in milliseconds) into the matching text box below the knob.

4. Choose a Release value either by rotating the Release virtual knob or by entering a value (in milliseconds) into the matching text box below the knob.

3.3.5 Filter/Crossover
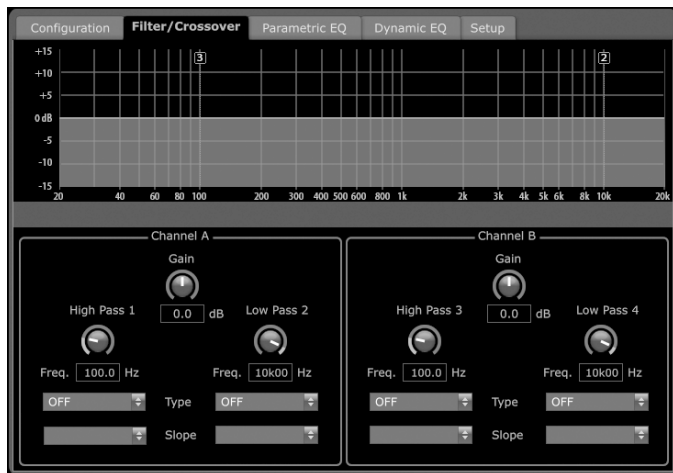
The Filter/Crossover tab displays and controls Filter/XOver module settings in two formats:

- **Frequency Curve**—displays the filter curves in visual form, and allows click-and-drag manipulation of filter threshold points.

- **Control View**—allows parameter tweaks via virtual controls, as well as pull-down menus for filter type and slope.

The Frequency Curve and Control View interact with each other and simultaneously shift as you change parameters in either view.

Filter/Crossover Frequency Curve Display

The Frequency Curve displays a frequency range from 20 Hz to 20 kHz, with 15 dB of cut/boost displayed on the vertical axis. Within this graphic field, the filter curve appears as a solid, colored line running from left to right. The line shifts and moves to reflect changing parameter values entered using the virtual controls and pull-down menus. Dotted vertical lin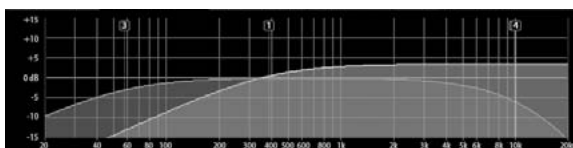es indicate frequency threshold points for the various filters, numbered 1 through 4, and these threshold points can be selected and moved through the frequency spectrum using the mouse or trackpad.

Moving filter thresholds via click-and-drag

1. Click and hold on the numbered box at the top of the desired filter threshold line.

2. Drag the threshold line to the desired location on the frequency spectrum.

3. The filter curve shown by the solid line will move and adjust as you shift the threshold line. The virtual knob and frequency displayed in the Control View will also simultaneously change as you move the threshold line in the Frequency Curve.

Filter/Crossover Control View

The Control View of the Filter/Crossover tab contains virtual knob controls for Gain, High Pass filter, and Low Pass filter. Exact parameter values appear in boxes below each virtual knob. These parameters may be altered by either adjusting the virtual knobs or by entering values directly in the parameter boxes.

Pull-down menus contain filter options for Type (Butterworth, Bessel, Linkwitz-Riley) and Slope (6–48 dB).

X-Over option for bi-amping

In Bi-Amp 1 and Bi-Amp 2 modes, the X-Over button appears on the Filter/Crossover tab. Activating the X-Over button links the Low Pass 2 and High Pass 3 filter controls and automatically creates a synchronized crossover point for bi-amped low frequency and high frequency signals.

Setting a linked crossover frequency

1. Activate the Bi-Amp 1 or Bi-Amp 2 settings on the Configuration tab.

2. Click on the Filter/Crossover tab.

3. Click on the X-Over button on the Filter/Crossover tab. The X-Over button will light up and overlapping filter curves will appear in the Frequency Curve.

4. Set the crossover frequency by any of these methods:

a) drag the Low Pass 2/High Pass 3 threshold line to the desired frequency in the Frequency Curve by clicking and dragging;

b) adjust the Low Pass 2 or High Pass 3 virtual knobs;

c) Enter the desired frequency directly into the Freq. text box.

5. Select a filter curve from the Type dropdown menu below either the Low Pass 2 or High Pass 3 virtual knobs.

6. Select the desired curve steepness from the Slope dropdown menu.

3.3.6 Parametric EQ
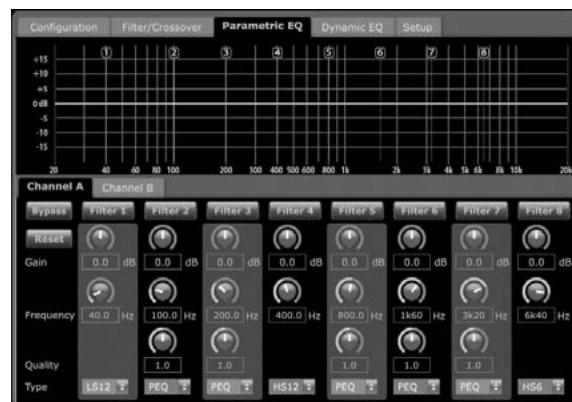
The Parametric EQ tab displays and controls PEQ DSP module settings in two formats (similar to the Filter/Crossover tab):

- **Control View**—allows parameter tweaks via virtual controls, as well as pull-down menus for EQ type (parametric, low shelving, and high shelving).

- **Frequency Curve**—displays the filter curves in visual form, and allows click-and-drag manipulation of EQ frequencies and gain.

The Frequency Curve and Control View interact with each other and simultaneously shift as you change parameters in either view.

Parametric EQ Control View

The Control View of the Parametric EQ tab contains virtual knob controls for Gain, Frequency, Quality (parametric EQ only). Exact parameter values appear in boxes below each virtual knob. These parameters may be altered by either adjusting the virtual knobs or by entering values directly in the parameter boxes.

To activate an EQ band, click the button (Filter 1, Filter 2, and so on) at the top of each channel strip. The channel button will light up to indicate the EQ is active.

Pull-down Type menus for each EQ band contain these additional options:

- PEQ (parametric EQ)

- LS6 (low shelving EQ, with a 6 dB slope)

- LS12 (low shelving EQ, with a 12 dB slope)

- HS6 (high shelving EQ, with a 6 dB slope)

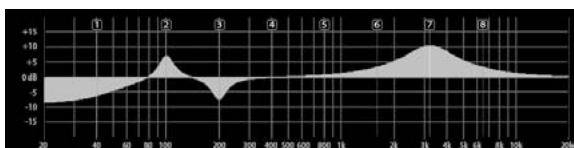- HS12 (high shelving EQ, with a 12 dB slope)

Parametric EQ Frequency Curve Display

The Frequency Curve displays a frequency range from 20 Hz to 20 kHz, with 15 dB of cut/boost displayed on the vertical axis. Within this graphic field, the EQ curve appears as a solid fill above and below the 0 dB center line and running from left to right. The curve shifts and moves to reflect changing parameter values. Dotted vertical lines indicate frequency points for the various EQ bands, numbered 1 through 8, and these frequency points can be selected and moved through the frequency spectrum using the mouse or trackpad. The gain for each EQ band may also be adjusted by using the frequency lines.

### Adjusting Parametric EQ frequency via click-and-drag

1. Click and hold on the numbered box at the top of the desired EQ band frequency line.

2. Drag the frequency line to the desired location on the frequency spectrum.

3. The EQ curve shown by the solid yellow fill will move and adjust as you shift the frequency line. The virtual knob and frequency displayed in the Control View will also simultaneously change as you move the frequency line in the Frequency Curve.

Adjusting Parametric EQ gain via click-and-drag

1. Click and hold over the numbered box at the top of the desired EQ band's frequency line.

2. Move the cursor vertically up or down the frequency line to the desired gain level.

3. The EQ curve shown by the solid yellow fill will re-size and adjust as you move the cursor up and down the frequency line. The virtual gain knob and gain dB displayed in the Control View will also simultaneously change as you move the cursor up and down frequency line in the Frequency Curve.

4. Dynamic EQ
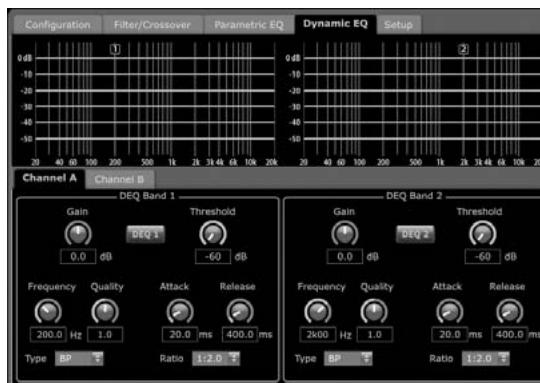
The Dynamic EQ tab displays and controls DEQ DSP module settings in two formats (similar to the Filter/Crossover and Parametric EQ tabs):

- **Frequency Curve**—displays the layered dynamic EQ curves in visual form, and allows click-and-drag manipulation of dynamic EQ/filter frequencies and gain.

- **Control View**—allows parameter tweaks via virtual controls, as well as pull-down menus for EQ/filter type (Type) and gain reduction/boost ratio (Ratio).

The Frequency Curve and Control View interact with each other and simultaneously shift as you change parameters in either view.

Dynamic EQ Frequency Curve Display
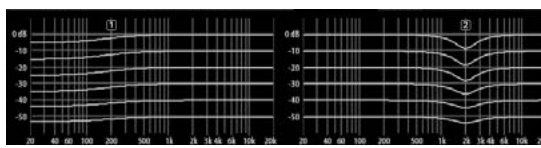
The Frequency Curve displays a frequency range from 20 Hz to 20 kHz, with layered dynamic EQ curves. Within this graphic field, the dynamic EQ curves appear as solid yellow lines that appear at every 10 dB (0 to -50 dB) threshold on the vertical axis. The curves shift and move to reflect changing parameter values. Dotted vertical lines indicate frequency points for the various dynamic EQ bands, numbered 1 and 2 (per channel), and these frequency points can be selected and moved through the frequency spectrum using the mouse or trackpad. The gain for each dynamic EQ band may also be adjusted by using the frequency lines.

Adjusting dynamic EQ frequency via click-and-drag

1. Click and hold on the numbered box at the top of the desired dynamic EQ band frequency line.

2. Drag the frequency line to the desired location on the frequency spectrum.

3. The layered dynamic EQ curves shown by the layered yellow lines will move and adjust as you shift the frequency line. The virtual knob and frequency displayed in the Control View will also simultaneously change as you move the frequency line in the Frequency Curve.

Adjusting dynamic EQ gain via click-and-drag

1. Click and hold on the numbered box at the top of the desired dynamic EQ band frequency line.

2. Move the cursor vertically up or down the frequency line to the desired gain level.

3. The layered EQ curves shown by the solid yellow line will adjust as you move the cursor up and down the frequency line. The virtual gain knob and gain dB displayed in the Control View will also simultaneously change as you move the cursor up and down frequency line in the Frequency Curve.

Dynamic EQ Control View

The Control View of the Dynamic EQ tab contains virtual knob controls for Gain, Threshold, Frequency, Quality (bandpass filter only). Exact parameter values appear in boxes below each virtual knob. These parameters may be altered by either adjusting the virtual knobs or by entering values directly in the parameter boxes.

Pull-down Type menus for each dynamic EQ band contain these additional options:

- BP (bandpass filter)
- LP6 (lo-pass filter, with a 6 dB slope)
- LP12 (lo-pass filter, with a 12 dB slope)
- HP6 (hi-pass filter, with a 6 dB slope)
- HP12 (hi-pass filter, with a 12 dB slope)

The Ratio pulldown menu offers four options:

- 1:2.0
- 1:3.0
- 1:5.0
- 1:10

Gain vs. Ratio

Positive gain settings result in a frequency boost at low signal levels and a nearly flat EQ response at high levels. Negative gain settings yield opposite results: at low signal levels, the EQ response is nearly flat, while higher signal levels receive increasing amounts of cut from the equalizer. The higher the Ratio setting, the more the equalizer will cut or boost the signal at different signal levels.

Programming a dynamic EQ

1. Choose an EQ type from the Type pulldown menu.

2. Set the dynamic EQ's band frequency by rotating the Frequency virtual knob. The programmed frequency can represent either the center frequency for band-pass (BP) mode, or the threshold frequency for low- (LP) and high-pass modes (HP).

3. For band-pass BP mode, control the width of the band-pass curve by rotating the Quality virtual knob parameter. High Qual values produce a narrow, steep curve, while low Qual values create a wide curve with a gentle slope.

4. Set the dynamic EQ's band cut or boost by rotating the Gain virtual knob.

5. Set the signal threshold by rotating the Threshold knob.

6. Program your desired ratio by selecting from the Ratio pulldown menu. Similar to a compressor, higher ratio values yield a more intense equalization effect.

7. Adjust the attack (Attack) and release (Release) values by rotating each parameters respective virtual knob.

3.3.7 Setup

The Setup tab allows you to manage connections and settings for your iNUKE amps. Amp presets may be stored either on the iNUKE DSP or on the PC (presets stored on your PC may then be loaded onto any iNUKE amplifier).

PC Presets
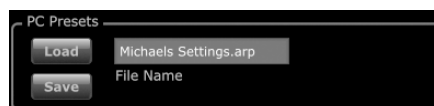
The PC Presets section allows you to store iNUKE DSP presets on your computer instead of the iNUKE amp's internal memory. The Load function allows you to upload presets from the computer, while the Save function stores the current iNUKE DSP settings to the computer (these files use a .arp filename extension).

Amp Presets
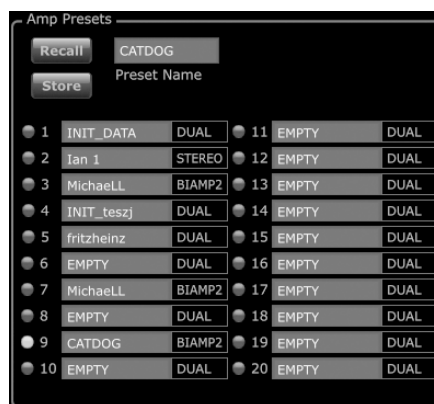
The Amp Presets section allows you to access and manage presets stored in the iNUKE amp's internal memory. The amp's internal memory holds up to 20 presets, and these 20 preset slots appear in the Amp Presets section as a numbered, double-column list showing the preset name and the preset's signal routing configuration (DUAL, STEREO, BIAMP1, and so on). The preset currently in use will display an illuminated dot immediately to the preset's left.

Note: Preset #1:INIT_DATA cannot be overwritten. Select this preset any time you want to restore the amp's default settings.

Recalling a preset stored in the amp's internal memory

1. Click on the desired preset in the Amp Presets list. The dot to the immediate left of the selected preset will light up.

2. Click on the Recall button in the upper left of the Amp Presets section. The selected preset's name will appear in the text box next to the Recall button. All settings contained in the preset will automatically deploy.

Saving a preset to the amp's internal memory

1. Select a destination for the preset by clicking on a slot in the preset list. (If you save your preset to a slot already holding a stored preset, the stored preset will be replaced by your new preset.)

2. Type your new preset's name into the text box to the right of the Recall button.

3. Click on the Store button to store your preset in the selected slot in the preset list. Your new preset's name will appear in the selected slot in the preset list.

Amp Connection

The Amp Connection section tells you which iNUKE amplifier you have connected to the software, as well as options for naming your iNUKE amp and for setting up a code to lock the amplifier's front panel and prevent tampering (the amp can still be edited from your laptop using the Amp Remote software).

For the current edition of the BEHRINGER Amp Remote software, only one iNUKE amplifier can appear at any one time in the amplifier list and be recognized by the software. Similarly, the IP address function can only be deployed with EUROCOM installed sound power amplifiers.

Connecting to an amplifier

◊ **this procedure assumes you already have an iNUKE amplifier connected to your computer, and that you are switching to another iNUKE amplifer. Usually, the Amp Remote software will automatically detect a USB-connected iNUKE amp and then ask if you wish to connect to the detected amplifer.**

1. Click on the Connect virtual button near the bottom of the Amp Connection section of the Setup tab. The software will disconnect from the current amplifer, clear the amplifier from the list in the Amp Connection section, and clear all presets from the Amp Presets list.

2. Press the Search virtual button near the top of the Amp Connection section, above and to the left of the amplifier list window. When the software finds your newly-connected iNUKE amp, the amplifier will appear in the amplifier list window, and the amp's internal presets will populate the Amp Presets list. The software will also launch a confirmation window asking if you wish to connect to the detected amplifier.

3. Press the Connect virtual button in the confirmation window to finalize the connection.

Renaming an amplifier

1. Type the new amplifier name directly into the text box to the left of the Rename Amp virtual button near the bottom of the Amp Connection section.

2. Click on the Rename Amp virtual button. The new amplifier name will appear in the Amp Name column of the amplifier list.

Locking the amplifier

1. Type a 4-character lock code of your choosing directly into the Lock Code window near the bottom of the Amp Connection section. (The Lock function requires a new lock code every time you lock the amplifier.)

2. Click on the Lock virtual button at the bottom right of the Amp Connection section. The Lock virtual button will turn red to indicate the amplifier front panel has been locked.

3. Clear the 4-character code from the Lock Code window if you desire extra security.

Unlocking the amplifier

1. Type the amplifier's 4-character lock code into the Lock Code window near the bottom of the Amp Connection section.

2. Click on the Unlock virtual button located directly to the right of the Lock Code text box. The Unlock virtual button will light up yellow to indicate the amplifier is unlocked, while the Lock button will change colors from red to gray. The characters in the Lock Code text box will disappear and be replaced by asterisks.

4. Applications

4.1 Bi-amping

Bi-amping splits a mono signal into upper and lower frequency bands, and then assigns each frequency band to separate speaker cabinets. A subwoofer typically takes the low frequency range. By splitting the signal this way, the speakers work more efficiently, and you can achieve a cleaner overall sound.

Setting up hardware for bi-amping

1. Run a 4-pole speaker cable with professional twist-locking connectors from OUTPUT CH A to the subwoofer. (The subwoofer receives its low-frequency signal from Channel B using poles 2+ and 2-, while the middle and upper frequency ranges use Channel A via poles 1+ and 1-.)

2. Set the subwoofer into BIAMPING mode.

3. Run a 2-pole speaker cable with professional twist-locking connectors from the subwoofer to the other speaker.

Programming DSP parameters for bi-amping

1. Choose the BIAMP1 setting on the Amp Mode screen.

2. Go to the XOVER screen using the UP/DOWN buttons to set appropriate high/low crossover frequencies.

3. In Channel A#1, choose your high-pass filter type (HPtype: BUT6, BUT12, BES12, etc.) and set the cutoff frequency (HPfreq) to approximately 100 Hz. Deactivate the low-pass filter (LPtype: OFF) on this channel and set the gain level (Gain) to suit your system.

4. In Channel B#1, choose your low-pass filter type (LPtype: BUT6, BUT12, BES12, etc.) and set the cutoff frequency (LPfreq) to approximately 100 Hz. Deactivate the high-pass filter (HPtype: OFF) on this channel and set the gain level (Gain) to suit your system.

EN

Programming BEHRINGER Amp Remote Software for bi-amping

1. Select the Configuration tab.

2. Choose the Bi-Amp 2 signal path in the Configuration tab. A confirmation window will pop up.

3. Click "Yes" on the Amp Mode confirmation window.

4. Select the Filter/Crossover tab.

5. Select the X-Over button below the Frequency Curve display. A confirmation window will up up asking if you wish to set a Default Crossover.

6. Click "Yes" in the confirmation window. The X-Over button will illuminate, and default crossover settings will appear in the Frequency Curve and Control View.

7. Choose a filter type from either the Low Pass 2 or High Pass 3 Type pulldown menus (the software defaults to a Butterworth filter). Any changes to the Low Pass 2 or High Pass 3 settings will also automatically appear in both filter's Control View settings.

8. Choose a filter slope setting from the Slope pulldown menu under either Low Pass 2 or High Pass 3 (the software defaults to a Butterworth filter).

Again, matching parameters will automatically appear in both filter's Control View settings.

9. Set the crossover frequency by using any of these three methods:

a) Rotate the Low Pass 2 or High Pass 3 virtual Freq knobs in the Control View. The crossover frequency displayed in the Freq box below the virtual knob will change simultaneously for both filters.

b) Select the text box below either Freq virtual knob, and type your desired frequency directly into the text box.

c) Go to the Frequency Curve display, click on the frequency line marked "2," and drag the frequency line to the desired area of the Frequency Curve. Parameter settings and virtual knobs in the Control View will automatically move and change as you drag the crossover frequency through the Frequency Curve window.

10. If necessary, adjust the Gain settings for Channel A and Channel B by rotating the respective Gain virtual knobs.

5. Installation

5.1 Rack mounting

Your iNUKE amplifier fits into a 19" rack and requires two rack units. Install into the rack using four attaching screws and washers for the front panel. Reinforce the back panel, especially if you will be taking the iNUKE on the road. Make sure enough cool air reaches the rack, especially when other rack equipment emanates a lot of heat. The iNUKE amplifiers circulate heat from the rear to the front vents to relieve heat inside the rack enclosure.

Fan speed adjusts automatically to assure safe operation. Never block ventilation openings. Should internal temperature reach extreme values, the unit will shut down automatically.

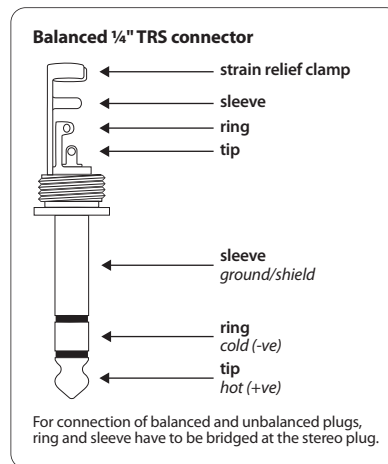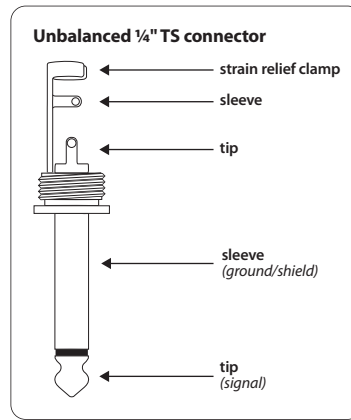## 5.2 Connections

5.2.1 Audio inputs

Each channel input uses combo jacks that can accept both balanced XLR and ¼" TRS stereo connectors, as well as unbalanced ¼" TS connectors. To deploy XLR connectors for unbalanced signals, bridge pins 1 and 3; mono ¼" TS connectors do not require any alteration to carry unbalanced signals.

When working with balanced signals, please make sure to exclusively use balanced cables. One unbalanced cable in the signal chain can change a balanced signal into an unbalanced signal.

5.2.2 Outputs

Your iNUKE amplifier requires two twist-locking professional speaker connectors. These professional speaker connectors were developed specially for driving high-powered speakers. The connectors snap in securely, prevent electric shock, and ensure correct polarity.

Inside the professional speaker connector, the 1+ pin (see figure) carries signal from either one or both channels, and this pin therefore suits mono-bridged operation (use pins 1+ and 2+). The lower connector, the 2+ pin, carries signal from CH B only.

Balanced use with XLR connectors

input
1 = ground/shield
2 = hot (+ve)
3 = cold (-ve)

output
For unbalanced use, pin 1 and pin 3 have to be bridged

Unbalanced ¼" TS connector
- strain relief clamp
- sleeve
- tip
- sleeve *(ground/shield)*
- tip *(signal)*

Balanced ¼" TRS connector
- strain relief clamp
- sleeve
- ring
- tip
- sleeve *ground/shield*
- ring *cold (-ve)*
- tip *hot (+ve)*

For connection of balanced and unbalanced plugs, ring and sleeve have to be bridged at the stereo plug.

◊ **Whenever possible, use thick and short speaker cables to minimize power loss. Never lay output cables near input cables.**

Professional speaker connector (compatible with Neutrik Speakon connectors)

1+ 2- 2+ 1-

1- 1+ 2- 2+

front view   rear view
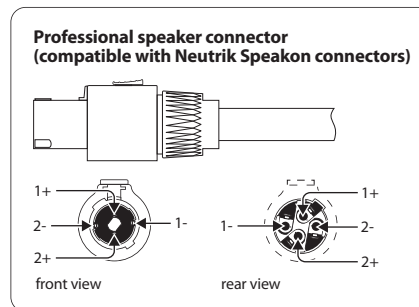
5.2.3 Connecting to the mains

Always connect your iNUKE amplifier to the voltage specified on the rear of the device. Connecting the amp to an incorrect voltage can permanently damage your amp.

Before powering up the amplifier, double-check all connections and fully lower the gain setting.

6. Specifications

NU6000DSP

Output Power

Maximum Output Power

Stereo	
8 Ω per channel, stereo	1600 W
4 Ω per channel, stereo	3100 W
2 Ω per channel, stereo	—
Bridged mono	
8 Ω	—
4 Ω	—

System

Controls

Front	Power switch, Gain controls (channels A and B) DSP section rotary push-encoder, Buttons for Process, Setup, Up/Down, Exit

Indicators

Power	Amber backlit illuminated gain controls
Limit (per channel)	0 dB, full scale
Signal (per channel)	-24, -12, -6 dB

Digital Signal Processing (DSP)

Display	LCD 128 x 32, amber backlit
Digital delay function (per channel)	0 - 300 ms
Digital crossover function	3 filter types, up to 48 dB/octave
Digital EQ function (per channel)	8-band parametric, 2-band dynamic equalizer
Digital dynamics function (per channel)	Zero attack limiter (peak)
Presets	20 total presets, 19 user-definable

Connectors

Inputs	2 x combo jacks
Input impedance	10 kΩ unbalanced, 20 kΩ balanced
Outputs	2 x locking-style professional speaker connectors
Output circuit type	Class D
Distortion	<0.2%
Frequency response	20 Hz to 20 kHz, +0 / -2 dB
Damping factor	>140 @ 8 Ω
Signal-to-noise	>98 dB
USB	Front panel USB connector type B for remote control of DSP section

Circuit Protection

Cooling	Continuously variable speed fan, Back-to-front air flow
Amplifier protection	Thermal and DC protection, Stable into reactive or mismatched loads
Load protection	On/off muting, DC-fault power supply shutdown

Power Supply, Power Consumption @ 1/8 Rated Power, Voltage (Breaker/Fuses)

USA / Canada	120V~, 60Hz (25A)
UK / Australia / Europe	220-240 V~, 50/60 Hz, (12A)
Korea / China	220-240 V~, 50/60 Hz,(12A)
Japan	100 V~, 50/60 Hz, (25A)
Power consumption @ 2 ohms	—
Power consumption @ 4 ohms	620 W
Mains connector	Standard IEC receptacle

Dimensions/Weight

Dimensions (H x W x D)	appr. 3.5 x 19 x 12.91" appr. 89 x 483 x 328 mm
Weight	appr. 11.9 lbs / 5.4 kg

NU3000DSP

Output Power

Maximum Output Power

Stereo

8 Ω per channel, stereo	440 W
4 Ω per channel, stereo	820 W
2 Ω per channel, stereo	1520 W

Bridged mono

8 Ω	1520 W
4 Ω	3000 W

System

Controls

Front	Power switch, Gain controls (channels A and B) DSP section rotary push-encoder, Buttons for Process, Setup, Up/Down, Exit

Indicators

Power	Amber backlit illuminated gain controls
Limit (per channel)	0 dB, full scale
Signal (per channel)	-24, -12, -6 dB

Digital Signal Processing (DSP)

Display	LCD 128 x 32, amber backlit
Digital delay function (per channel)	0 - 300 ms
Digital crossover function	3 filter types, up to 48 dB/octave
Digital EQ function (per channel)	8-band parametric, 2-band dynamic equalizer
Digital dynamics function (per channel)	Zero attack limiter (peak)
Presets	20 total presets, 19 user-definable

Connectors

Inputs	2 x combo jacks
Input impedance	10 kΩ unbalanced, 20 kΩ balanced
Outputs	2 x locking-style professional speaker connectors
Output circuit type	Class D
Distortion	<0.3%
Frequency response	20 Hz to 20 kHz, +0 / -1 dB
Damping factor	>145 @ 8 Ω
Signal-to-noise	>98 dB
USB	Front panel USB connector type B for remote control of DSP section

Circuit Protection

Cooling	Continuously variable speed fan, Back-to-front air flow
Amplifier protection	Thermal and DC protection, Stable into reactive or mismatched loads
Load protection	On/off muting, DC-fault power supply shutdown

Power Supply, Power Consumption @ 1/8 Rated Power, Voltage (Breaker/Fuses)

USA / Canada	120 V~, 60 Hz (T 10 A H 250 V)
UK / Australia / Europe	220-240 V~, 50/60 Hz (T 6.3 A H 250 V)
Korea / China	220-240 V~, 50/60 Hz (T 6.3 A H 250 V)
Japan	100 V~, 50/60 Hz (T 10 A H 250 V)
Power consumption @ 2 ohms	350 W
Power consumption @ 4 ohms	210 W
Mains connector	Standard IEC receptacle

Dimensions/Weight

Dimensions (H x W x D)	appr. 3.5 x 19 x 9.76" appr. 89 x 483 x 248 mm
Weight	appr. 6.8 lbs / 3.1 kg

EN

NU1000DSP

Output Power

Maximum Output Power

Stereo	
8 Ω per channel, stereo	160 W
4 Ω per channel, stereo	310 W
2 Ω per channel, stereo	530 W
Bridged mono	
8 Ω	620 W
4 Ω	1050 W

System

Controls

Front	Power switch, Gain controls (channels A and B) DSP section rotary push-encoder, Buttons for Process, Setup, Up/Down, Exit

Indicators

Power	Amber backlit illuminated gain controls
Limit (per channel)	0 dB, full scale
Signal (per channel)	-24, -12, -6 dB

Digital Signal Processing (DSP)

Display	LCD 128 x 32, amber backlit
Digital delay function (per channel)	0 - 300 ms
Digital crossover function	3 filter types, up to 48 dB/octave
Digital EQ function (per channel)	8-band parametric, 2-band dynamic equalizer
Digital dynamics function (per channel)	Zero attack limiter (peak)
Presets	20 total presets, 19 user-definable

Connectors

Inputs	2 x combo jacks
Input impedance	10 kΩ unbalanced, 20 kΩ balanced
Outputs	2 x locking-style professional speaker connectors
Output circuit type	Class D
Distortion	<0.1%
Frequency response	20 Hz to 20 kHz, +0 / -1 dB
Damping factor	>155 @ 8 Ω
Signal-to-noise	>98 dB
USB	Front panel USB connector type B for remote control of DSP section

Circuit Protection

Cooling	Continuously variable speed fan, Back-to-front air flow
Amplifier protection	Thermal and DC protection, Stable into reactive or mismatched loads
Load protection	On/off muting, DC-fault power supply shutdown

Power Supply, Power Consumption @ 1/8 Rated Power, Voltage (Breaker/Fuses)

USA / Canada	120 V~, 60 Hz (T 6.3 A H 250 V)
UK / Australia / Europe	220-240 V~, 50/60 Hz (T 3.15 A H 250 V)
Korea / China	220-240 V~, 50/60 Hz (T 3.15 A H 250 V)
Japan	100 V~, 50/60 Hz (T 6.3 A H 250 V)
Power consumption @ 2 ohms	150 W
Power consumption @ 4 ohms	70 W
Mains connector	Standard IEC receptacle

Dimensions/Weight

Dimensions (H x W x D)	appr. 3.5 x 19 x 9.76" appr. 89 x 483 x 248 mm
Weight	appr. 6.4 lbs / 2.9 kg

FEDERAL COMMUNICATIONS COMMISSION COMPLIANCE INFORMATION

FC **BEHRINGER**
iNUKE NU6000DSP/NU3000DSP/
NU1000DSP

Responsible Party Name:	**MUSIC Group Services US Inc.**
Address:	**18912 North Creek Parkway, Suite 200 Bothell, WA 98011, USA**
Phone/Fax No.:	**Phone: +1 425 672 0816 Fax: +1 425 673 7647**

iNUKE NU6000DSP/NU3000DSP/NU1000DSP

complies with the FCC rules as mentioned in the following paragraph:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Important information:

Changes or modifications to the equipment not expressly approved by MUSIC Group can void the user's authority to use the equipment.

We Hear You

behringer